

There's More Than Meets the Eye: Facial Appearance and Evaluations of Transsexual People

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Abstract Recent events have drawn attention to the prejudice and discrimination faced by transpeople; however, there is limited research on attitudes toward transpeople. We studied the effects of facial appearance on the evaluations of transsexuals in 239 heterosexual undergraduate students from the midwestern United States. Men had significantly more negative evaluations than women. The gender of the transsexual (male-to-female or female-to-male) had limited effects on evaluations; however, the transsexual whose facial appearance was congruent with their desired gender was perceived as more attractive than the transsexual whose facial appearance was incongruent. Negative evaluations were correlated with higher levels of transphobia and sexual prejudice. Further investigation is needed on the factors that influence prejudicial attitudes toward transpeople, including physical appearance.

Keywords Transsexual · Transphobia · Gender · Physical appearance

Introduction

In April 2009, a man was convicted in Colorado for the murder of a transgender teen, the first time such a conviction had occurred under a state hate crime statute (Spellman 2009). On October 28, 2009, President Barack Obama signed into law the Matthew Shepard and James Byrd, Jr. Hate Crimes Prevention Act, which includes protection against acts of violence based on gender, sexual

orientation, and gender identity. These two important events occurred during a two-year period that witnessed an increase in harassment and violence toward transgender people (National Coalition of Anti-Violence Programs 2009). Although researchers have made significant progress in understanding and explaining sexual prejudice, or prejudice against gay, lesbian, and bisexual people (Blashill and Powlishta 2009; Ellis et al. 2003; Herek 1988, 2000a, b, 2002, 2007; Kite and Whitley 1998; Schope and Eliason 2004; Whitley 2001), less is known about the factors that fuel prejudice and discrimination against transpeople who are also perceived as being gender non-conformists (Holmes and Cahill 2004; Papoulias 2006; Pusch 2005).

Transpeople are found throughout the world and comprise a diverse group including those who cross dress and those whose gender identity varies from the one assigned to them at birth, such as transgender and transsexual individuals (Winter et al. 2008). Transsexual people, often referred to as either male-to-female (MTF) or female-to-male (FTM), are biological males or biological females, respectively, who seek hormonal, surgical, and/or other procedures to make their bodies conform to their desired gender. Anthropological evidence suggests that the treatment of transpeople varies between and within cultures and may range from them being accorded elite economic and social status to being exposed to ridicule and contempt (Nanda 2000). Recent correlational studies of prejudicial attitudes toward transpeople, sometimes called transphobia, have begun to fill in the gaps of our limited knowledge. For example, transphobia tends to be stronger among Hong Kong college students than Canadian college students (Winter et al. 2008). Studies in Poland (Antoszewski et al. 2007), the United Kingdom (Tee and Hegarty 2006), and the United States (Claman 2007; Hill and Willoughby 2005; Nagoshi et al. 2008) indicate that transphobia is

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associated with sexual prejudice, high levels of religiosity or religious fundamentalism, less contact with transpeople or sexual minorities, a belief that there is not a biological basis to transgendered behavior, sexist attitudes, and more stereotyped beliefs about gender roles. Experimental studies of the factors that affect prejudice against transpeople are uncommon. Therefore, the primary purpose of our study was to examine the effects of gender (MTF and FTM) and facial appearance (congruent or incongruent with the desired gender) of a hypothetical transsexual on heterosexual American college students' levels of transphobia.

One theoretical framework for understanding and explaining prejudice toward transpeople is social categorization (Macrae and Bodenhausen 2000). Originally formulated by Allport (1954/1979), social categorization happens because “categories enable people to function in the world” and “aid identification” of groups of people (Fiske 2005, p. 37). Categorization can activate stereotypes about ingroup and outgroup members (Dovidio et al. 2005), which in turn can lead to prejudice (Fiske 2005; Judd and Park 2005).

Much of the early research on social categorization and prejudice focused on racial prejudice. The theory has not been explicitly applied to prejudice toward transsexuals, but it has been applied to related forms of prejudice such as sexism (Eagly and Diekmann 2005; Rudman 2005). As a social category, gender is viewed as a “fundamental divide [s] of the natural world” (Macrae and Bodenhausen 2000, p. 113; see also Jost and Hamilton 2005); therefore, gender stereotypes may be easily activated in cognition and then applied to groups of women and men. For example, someone who is perceived as violating prescribed and proscribed stereotypes associated with their gender category, such as an assertive woman (Rudman 2005) or a man who is perceived to be feminine (Blashill and Powlishta 2009), may experience prejudice. Transsexuals are frequently perceived as violating norms associated with their sex and gender categories; therefore, they could become victims of prejudicial attitudes because of the activation of gender stereotypes due to social categorization.

Compared to heterosexual women, heterosexual men show higher levels of prejudice towards people who do not conform to norms for gendered behavior, including homosexual people (Ellis et al. 2003; Herek 1988, 2000a, b, 2002; Nagoshi et al. 2008; Schope and Eliason 2004) and transpeople in Poland (Antoszewski et al. 2007), the United Kingdom (Tee and Hegarty 2006), Hong Kong (Winter et al. 2008), Sweden (Landén and Innala 2000), Canada (Hill and Willoughby 2005), and the United States (Ceglian and Lyons 2004; Claman 2007; Leitenberg and Slavin 1983; Nagoshi et al. 2008). According to social categorization theory, one motive for prejudice is to control anxiety that arises from perceived threats to one's group identity from an outgroup, whether those threats are “tangible or

symbolic” (Fiske 2005, p. 45; Yzerbyt and Corneille 2005). A heterosexual orientation is a core criterion for American masculinity but not for American femininity (Kimmel 2009; Kite and Whitley 1998). Because of their same-sex sexual orientation, homosexual people may represent a symbolic threat to heterosexual men's masculinity, resulting in more sexual prejudice toward homosexual people among heterosexual men than heterosexual women. Furthermore, heterosexual men's sexual prejudice tends to be stronger for men with high gender self-esteem (i.e., a strong identity as a man) than for men with low gender self-esteem (Falomir-Pichastor and Mugny 2009). Similarly, transsexual people may also represent a symbolic threat to heterosexual men's masculinity. For example, Nagoshi et al. (2008) found that the predictors of transphobia were similar to those of homophobia in heterosexual men but not heterosexual women. They suggested that, when exposed to a transperson, “men's anxieties about their masculinity are activated” (Nagoshi et al. 2008, p. 529), including anxieties about their sexual orientation, which in turn give rise to both transphobia and homophobia (see also Norton 1997).

Sexual prejudice is also stronger toward gay men than lesbian women (Ellis et al. 2003; Herek 2000a, b, 2002), and this effect is more pronounced for heterosexual men than heterosexual women (Herek 1988, 2000a, b, 2002; Schope and Eliason 2004). Heterosexual men may denigrate gay men more than lesbian women because gay men are perceived to be a direct threat to their masculinity (Kimmel 2009; McCreary 1994; Messner 2004), whereas lesbians “are not directly implicated in their [heterosexual men's] own heterosexual masculine identity” (Herek 2002, p. 59). In contrast to heterosexual men, heterosexual women may view gay men and lesbian women as members of the same minority group and not as people who threaten their femininity; therefore, their negative attitudes do not discriminate as much between gay men and lesbian women (Herek 2002).

We could not find any studies that investigated gender comparisons in attitudes toward MTF and FTM transsexuals. In fact, early research on attitudes toward transsexual people focused on MTF transsexuals (e.g., Kando 1972), leaving a void of information on FTM transsexuals (Green 2005). However, findings suggest that men are more prejudiced against feminine-acting boys or men than masculine-acting boys or men (Blashill and Powlishta 2009; Lobel 1994), and men are more uncomfortable than women around male cross-dressers (Ceglian and Lyons 2004). Furthermore, people tend to have more prejudicial views toward boys or men who exhibit non-traditional gender characteristics than girls or women who do the same (Sandnabba and Ahlberg 1999; Winter et al. 2008). Given the extant literature, it seems reasonable to predict that

heterosexual people would be more prejudiced towards a MTF transsexual than a FTM transsexual, and that this gap in prejudice would be more pronounced among heterosexual men. First, heterosexual men may perceive the MTF transsexual as relinquishing the status that comes with being a biological male. Second, if homophobia underlies heterosexual men's prejudice towards transpeople (Nagoshi et al. 2008) and if they focus on the biological sex of the MTF transsexual, heterosexual men may perceive the MTF transsexual as a homosexual, especially if the MTF is viewed as being erotically attracted to men. Both of these perceptions may threaten heterosexual men's masculinity and lead to prejudice. In contrast, the FTM transsexual may be viewed less negatively than the MTF transsexual by heterosexual men because they may be seen as rejecting their femininity, something that heterosexual men also engage in to avoid being perceived as homosexual (Kimmel 2009; Messner 2004). In addition, heterosexual men may perceive FTM transsexuals to be weak competitors in attracting women because they are not biological men; therefore, they are not very threatening. Heterosexual women, on the other hand, may view MTF and FTM transsexuals as people whose gender-atypical behavior makes them members of the same minority group; therefore, women may not discriminate between the two types of transsexuals as much as heterosexual men.

One factor that has received scant attention in the research on attitudes toward transpeople is physical appearance. This is somewhat surprising because it may be obvious to observers that the physical appearance of some transpeople, such as a man who cross-dresses, does not conform to gender norms. Physical appearance, particularly the face, is one of the first aspects of a person that we notice, and it serves as a strong cue for categorizing people in terms of their sex and gender (Mason et al. 2006) and for discerning a person's attractiveness and personality characteristics. For example, facial attractiveness for men depends on having masculine characteristics such as a long, broad lower jaw and more pronounced cheekbones and eyebrow ridges (Fink and Penton-Voak 2002; Johnston et al. 2001; Rennels et al. 2008) and for women on having feminine characteristics such as a small chin, large lips, large eyes, and smooth hair-free skin (Fink and Penton-Voak 2002; Little et al. 2006; Thornhill and Grammer 1999). Compared to unattractive people, physically attractive people are treated more positively (Langlois et al. 2000) and are perceived to be more intelligent, sociable, mentally healthy, socially skilled, competent in the workplace, and popular (Eagly et al. 1991; Feingold 1992; Langlois et al. 2000). Furthermore, an androgynous physical appearance may give rise to perceptions of a homosexual orientation (Madson

2000), and feminine-appearing boys or masculine-appearing girls can cause observers to attribute feminine and masculine behaviors, respectively, to the target (Rogers and Ritter 2002). Both sex and gender categorization and activation of gender stereotypes are triggered by faces (Mason et al. 2006) and these processes can occur at an early perceptual stage of social categorization (Freeman and Ambady 2009). Being able to convincingly exhibit the physical appearance of the desired gender may be important to a transsexual person's ability to attract and maintain relationships with romantic partners (Kockott and Fahrner 1988; Money and Brennan 1970), receive advantages in the workplace (Schilt 2006), and feel satisfied with their lives (Boylan 2003; Devor 1997; Green 2005). Hence, physical appearance may play a potentially powerful role in the responses that transsexual individuals elicit from others, which in turn may affect attitudes toward transsexual people.

In the current study, we manipulated the facial appearance of hypothetical MTF and FTM transsexuals to be either congruent (i.e., a masculine-appearing FTM or feminine-appearing MTF) or incongruent (i.e., a feminine-appearing FTM or masculine-appearing MTF) with the desired gender. Heterosexual college students rated the transsexuals on three dimensions. The first dimension was a general evaluation, a basic dimension that has been demonstrated in various factor analyses on perceived characteristics such as Osgood et al.'s (1957) evaluative dimension. The second dimension assessed the character's perceived mental health. Children who exhibit non-traditional gender characteristics are rated as more psychologically maladjusted than children who exhibit traditional gender characteristics (Hill and Willoughby 2005; Sandnabba and Ahlberg 1999). Because of the lengths to which some transsexuals go to change their bodies, such as sex reassignment surgery, they may also be viewed as being mentally unstable (Golden 2008). Indeed, gender identity disorder is included in the *Diagnostic and Statistical Manual-IV* (American Psychiatric Association 1994). The third dimension assessed the transsexual character's perceived attractiveness and likeability as a friend and romantic partner. Imagining a relationship with the transsexual character might represent more of a personal threat to one's gender group than asking participants to rate the general and mental health of the transsexual.

As discussed earlier, sexual prejudice is correlated with general measures of transphobia (Claman 2007; Hill and Willoughby 2005; Nagoshi et al. 2008); therefore, we included a measure of sexual prejudice to determine its associations with evaluations of a hypothetical transsexual character. We also included a general measure of transphobia and a measure of social desirability to investigate their associations with the evaluations.

We tested the following hypotheses:

- 1) Because of the symbolic threat transsexual people may pose to heterosexual men's masculinity but not heterosexual women's femininity, heterosexual men will evaluate the transsexual character more negatively than heterosexual women.
- 2) The MTF transsexual will be evaluated more negatively than the FTM transsexual. Furthermore, the MTF transsexual may represent a more salient symbolic threat to heterosexual men than the FTM transsexual. Therefore, we predicted that the difference in negative attitudes toward the MTF transsexual and the FTM transsexual will be more pronounced in heterosexual men than heterosexual women.
- 3) Because physical attractiveness confers other positive attributes (Eagly et al. 1991; Feingold 1992; Langlois et al. 2000), we predicted that a transsexual person whose facial appearance is congruent with their desired gender would be rated more positively than a transsexual person whose facial appearance was incongruent with their desired gender.
- 4) Heterosexual men will have higher levels of transphobia and sexual prejudice than heterosexual women. Also, higher levels of transphobia and sexual prejudice will predict more negative ratings of the transsexual character.

Method

Participants

Participants were 239 undergraduate students recruited from psychology courses at a Midwestern university who self-identified as heterosexual (117 women and 122 men). The average age was 19.8 years ($SD=1.9$) and ranged from 18 to 28 years. The majority of participants identified as White/Caucasian (79.1%), 14.6% were Black/African American, 1.3% were Hispanic/Latino(a), .8% were Indian Asian/Asian American, .8% were Native American/American Indian, and 3.3% were Other. The majority of participants were in the first or sophomore year (44.8% and 31%, respectively) with 13.8% being juniors and 10.5% being seniors.

Vignettes and Photographic Images

Two vignettes describing a transsexual individual were accompanied by one of four different color photographic images of a human face. The vignettes were identical except that one described a biological man living as a woman (MTF) and the other described a biological woman

living as a man (FTM). The names given to the vignette characters, "Brian" and "Karen," were selected because these opposite-gender stimulus names receive similar ratings on attractiveness and competence (Kasof 1993). The vignettes read as follows:

Karen [Brian], pictured to the right, was born and reared as a biological male [female], but has always thought of himself [herself] as a woman [man]. For example, as a child he [she] enjoyed borrowing his [her] sister's [brother's] clothes and as a young adult he [she] decided to begin hormone replacement treatment and live his [her] life as a female [male]. Recently he [she] had surgery to alter his [her] genitals so that he [she] could finally feel comfortable in his [her] own body.

A pilot study was conducted to ensure that the images accompanying the vignettes depicted facial features with the intended feminine or masculine appearances. Five color photographs of Caucasian women and five color photographs of Caucasian men in their early 20's with neutral facial expressions (head and shoulders) were altered to appear more masculine or feminine, respectively. Images were obtained online from PICS images database at Stirling University, <http://pics.psych.stir.ac.uk/cgi-bin/PICS/New/pics.cgi?filename=shop-gklYag>. Using PhotoShop we altered the original images by transposing the heads from the men and the heads from the women onto the head hair of other women or men, respectively. This produced five pairs of original/altered images of men and five pairs of original/altered images of women. Twenty-two undergraduates who did not participate in the current study rated each of the 20 images on masculinity and femininity using a 6-point scale. The pair of male images and the pair of female images that demonstrated the most robust significant differences on ratings of masculinity and femininity were selected for the current study (masculinity ratings: male images, $t(21)=9.200, p<.001$; female images, $t(19)=-5.458, p<.001$ and femininity ratings: male images, $t(19)=-11.000, p<.001$; female images, $t(21)=5.257, p<.001$). See Fig. 1 for the photographic images. The masculine and feminine facial features in the images match those found to be considered attractive in men and women, respectively (Fink and Penton-Voak 2002; Johnston et al. 2001; Little et al. 2006; Rennels et al. 2008; Thornhill and Grammer 1999).

The vignettes that described the FTM were paired with either the original image depicting a man with stereotypically masculine features (features congruent with desired gender) or the altered male image with more feminine facial features (features incongruent with desired gender). The vignettes that described the MTF were paired with either the original image of the woman with stereotypically feminine facial features (congruent features), or the altered



Fig. 1 Photographic images that accompanied the vignettes. Clockwise from upper left: congruent FTM; incongruent FTM; incongruent MTF; and congruent MTF.

female image with more masculine facial features (incongruent features).

Participants received one of four combinations of the vignettes and images: FTM (Brian character) with congruent features ($n=35$ men and 29 women) or incongruent features (31 men and 27 women); MTF (Karen character) with congruent features (28 men and 28 women) or incongruent features (28 men and 33 women).

Questionnaires

Genderism and Transphobia Scale (GTS)

The Genderism and Transphobia Scale (Hill and Willoughby 2005) has 32 items designed to measure discrimination and prejudice toward transpeople. There are two subscales: Genderism/Transphobia (general attitudes toward transpeople) with 25 items (i.e., “Men who shave their legs are weird”) and Gender Bashing that measures more violent attitudes toward transpeople with 7 items (i.e. “I have beaten up men who act like sissies”). Participants rated each item on a Likert-type scale from 1 (Strongly Agree) to 7 (Strongly Disagree). Hill and Willoughby reported good discriminant and convergent validity and good internal consistency.

Scores for individual items were summed with higher scores indicating higher levels of transphobia. Alpha coefficients in the current study were .93 for the Genderism/Transphobia subscale (scores range from 25 to 175) and .77 for the Gender Bashing subscale (scores range from 7 to 49).

Kite Homosexuality Attitude Scale (KHAS)

This is a 21-item measure that assesses sexual prejudice (Kite and Deaux 1986; i.e., “I would not mind having homosexual friends”). Items were rated on a 5-point, Likert-type scale from Strongly Agree (1) to Strongly Disagree (5). The KHAS shows good convergent validity and internal consistency (Kite & Deaux). In this study the internal consistency of the total score was $\alpha=.95$. Scores on individual items were summed such that high scores indicated less sexual prejudice (scores range from 21 to 105).

Ratings of Transsexual Character

Immediately following the vignette, participants rated the transsexual character on 10 items drawn from research on attitudes toward homosexuality and cross-dressing (Moulton and Adams-Price 1997). The statements, designed to assess perceived attractiveness, likeability, and emotional health of the transsexual character, were as follows: “Karen (Brian) is happy;” “Karen (Brian) is attractive;” “I would like Karen (Brian) as a friend;” “I would like Karen (Brian) as a romantic partner;” “Karen (Brian) is emotionally stable;” “Karen (Brian) may need counseling;” “Karen (Brian) is disturbed;” “Karen (Brian) is well-adjusted;” “Karen (Brian) is successful;” and “Karen (Brian) is confident.” Responses were on a 6-point Likert-type scale with 1 being “Strongly Disagree” and 6 being “Strongly Agree.”

Data for these ratings were reduced by using a principal components analysis with varimax rotation. Three factors were extracted with eigenvalues of 1.0 or higher, accounting for 63.7% of the variance. The items included in each factor had loadings that were higher than .60 and cross loadings that were less than .45. Five items were included in the first factor (eigenvalue=4.0; 40.19% of variance) and appeared to be a measure of *general evaluation* (items were happy, emotionally stable, well-adjusted, successful, and confident; $\alpha=.81$). The second factor consisted of three items (eigenvalue=1.3; 13.02% of variance) and was labeled *attractiveness/relationship evaluation* (items were attractive, friend, and romantic partner; $\alpha=.63$). The third factor, labeled *mental health evaluation*, included two items that were reverse coded (eigenvalue=1.05; 10.48% of variance) and reflected evaluations of the transsexual character’s need for mental health services (items were need counseling and disturbed).

The items in each factor were summed, and the average item score, which could range from 1 to 6, was used in the analyses described below. Higher scores indicated more positive evaluations of the transsexual vignette character.

Marlowe-Crowne Social Desirability Scale (M-C SDS)

The Marlowe-Crowne Social Desirability Scale (Crowne and Marlowe 1960) is a widely used measure that assesses the extent to which participants are responding in a socially desirable way. The scale is comprised of 33 true and false items intended to reflect socially sanctioned behaviors that rarely occur, for example, “I have never intensely disliked anyone.” Two items on the M-C SDS were inadvertently left out in the present study. Hence, total scores were the sum of 31 items, with high scores indicating higher levels of social desirability (scores range from 0 to 31; $\alpha=.78$).

Demographic Questionnaire

Participants provided their age, gender, sexual orientation, year in school, and race.

Procedure

Participants were tested in groups and the four vignette and image conditions were distributed randomly among the participants. Approximately half of the participants (65 men and 57 women) read the vignette with the image and completed the character ratings first and then completed the Genderism and Transphobia Scale, the Kite Homosexuality Attitude Scale, and the Marlowe-Crowne Social Desirability Scale. The remaining participants read the vignette and completed the character ratings following the other questionnaires (57 men and 60 women). All participants completed the demographic questionnaire last.

Results

Data analyses on ratings of the transsexual character included the full sample of 239 students. Five students had incomplete data for the Genderism and Transphobia subscales and/or the Kite Homosexuality Attitude Scale. We excluded these data for analyses that involved those scales, leaving a total of 115 women and 119 men.

Ratings of the Transsexual Character

More positive general evaluations were significantly and positively correlated with attractiveness/relationship, $r(237)=.53$, $p<.001$, and mental health evaluations, $r(237)=.43$, $p<.001$. Also, positive attractiveness/relationship

evaluations were correlated significantly with positive mental health evaluations, $r(237)=.26$, $p<.001$.

A three-way MANCOVA was calculated to test the first three hypotheses: 1) heterosexual men will rate the transsexual characters more negatively than heterosexual women, 2) the MTF transsexual will be rated more negatively than the FTM transsexual and this difference will be more pronounced in men than women, and 3) the congruent appearing transsexual will be rated more positively than the incongruent appearing transsexual. The independent variables were gender of the participant, gender of transsexual (MTF or FTM), and facial appearance of the transsexual (congruent or incongruent with the desired gender). The dependent variables were scores on the general, mental health, and attractiveness/relationship dimensions, and the covariate was social desirability scores. A MANCOVA was also calculated with order of the questionnaires and vignette included as an independent variable. The same significant main and interaction effects for the dependent variables were found when order was included as when order was excluded; therefore, only the results of the three-way MANCOVA are reported.

There were significant multivariate effects for participant's gender, $F(3, 228)=14.78$, $p<.001$, partial $\eta^2=.163$; gender of transsexual, $F(3, 228)=4.82$, $p=.003$, partial $\eta^2=.06$; transsexual's appearance, $F(3, 228)=5.46$, $p=.001$, partial $\eta^2=.067$; the interaction between participant's gender and gender of transsexual, $F(3, 228)=3.37$, $p=.019$, partial $\eta^2=.042$; and the interaction between participant's gender and transsexual's appearance, $F(3, 228)=3.55$, $p=.015$, partial $\eta^2=.045$. The covariate of social desirability was also significant, $F(3, 228)=3.22$, $p=.024$, partial $\eta^2=.041$. The multivariate test was followed by univariate tests, described below. To account for multiple tests, a Bonferroni adjustment was used and significance was set at $p\leq.017$. Table 1 presents the means and standard deviations for the general, attractiveness/relationship, and mental health evaluations.

General Evaluation

Compared to women, men reported more negative general evaluations of the transsexual character, $F(1, 230)=6.18$, $p=.014$, partial $\eta^2=.026$ (men $M=3.42$, $SD=.97$; women $M=3.69$, $SD=.99$). On average, the transsexual whose appearance was incongruent with their desired gender was rated less positively than the congruent transsexual, $F(1, 230)=10.57$, $p=.001$, partial $\eta^2=.044$ (see Table 1). General evaluations were more positive when social desirability scores were higher, $r(237)=.13$, $p=.041$. The main effect of gender of transsexual and the two-way and three-way interactions were not significant, $F_s(1, 230)=.40$ to 5.27 , $p_s>.017$.

Table 1 Means (SD) for evaluations as a function of gender of participant, gender of transsexual (MTF or FTM), and facial appearance of transsexual (Incongruent or Congruent).

Table 1 Means (SD) for evaluations as a function of gender of participant, gender of transsexual (MTF or FTM), and facial appearance of transsexual (Incongruent or Congruent).	Male-to-Female			Female-to-Male		
	Incongruent	Congruent	Total	Incongruent	Congruent	Total
General						
Women	3.7 (1.1)	3.7 (.9)	3.7 (1.0)	3.7 (.9)	3.8 (1.0)	3.7 (.9)
Men	3.1 (1.0)	4.0 (1.0)	3.5 (1.1)	3.1 (.9)	3.5 (.8)	3.3 (.9)
Total	3.4 (1.1)	3.8 (.9)	3.6 (1.1)	3.4 (.9)	3.7 (.9)	3.5 (.9)
Attractiveness						
Women	2.2 (.8)	2.3 (.9)	2.2 (.8)	2.6 (.9)	3.0 (.9)	2.8 (.9)
Men	1.7 (.7)	2.0 (.8)	1.9 (.8)	1.8 (.7)	1.9 (.8)	1.8 (.7)
Total	2.0 (.8)	2.2 (.9)	2.1 (.8)	2.2 (.9)	2.4 (1.0)	2.3 (1.0)
Mental health						
Women	3.4 (1.4)	3.5 (1.4)	3.4 (1.4)	4.1 (1.3)	3.8 (1.3)	3.9 (1.3)
Men	3.7 (1.5)	3.3 (1.3)	3.5 (1.4)	3.4 (1.5)	3.4 (1.5)	3.4 (1.5)
Total	3.5 (1.5)	3.4 (1.3)	3.5 (1.4)	3.7 (1.4)	3.6 (1.4)	3.7 (1.4)

Scores could range from 1 to 6 with higher scores indicating a more positive evaluation

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Attractiveness/Relationship Evaluation

Similar to general evaluations, men had more negative attractiveness/relationship evaluations than did women, $F(1, 230)=43.18$, $p<.001$, partial $\eta^2=.158$ (men $M=1.86$, $SD=.75$; women $M=2.53$, $SD=.91$). Also, attractiveness/relationship evaluations were more positive for the FTM than the MTF transsexuals, $F(1, 230)=6.66$, $p=.011$, partial $\eta^2=.028$; however, this effect was qualified by a significant interaction between participant's gender and gender of transsexual, $F(1, 230)=8.94$, $p=.003$, partial $\eta^2=.037$. *Post hoc* tests indicated that women gave more positive attractiveness/relationship evaluations to the FTM transsexual than the MTF transsexual, $t(115)=3.8$, $p<.001$ (see Table 1). In contrast, men's ratings of the FTM and MTF transsexuals were not significantly different, $t(120)=-.29$, $p=.774$. The main effect of appearance, the remaining interaction effects, and the social desirability covariate were not significant, $F_s(1, 230)=.09$ to 5.52 , $ps>.017$.

Mental Health Evaluation

Higher scores on social desirability were associated with more positive mental health evaluations of the transsexual character, $r=.16$, $p=.014$. None of the main or interaction effects were significant, $F_s(1, 230)=.07$ to 2.66 , $ps>.017$.

Correlations with Transphobia and Sexual Prejudice

Table 2 presents the zero-order correlations (two-tailed) between the ratings of the transsexual character, and scores on the GTS and KHAS scales for men and women. For women and men, more transphobia (Genderism/Transphobia subscale) and sexual prejudice (KHAS) were significantly correlated with more negative evaluations of the transsexual character. Higher scores on the Gender Bashing subscale of the GTS were significantly correlated with more negative general and attractiveness evaluations, but only for men.

Table 2 Zero-order correlations between evaluations of transsexual character and transphobia and sexual prejudice for women and men.

	General		Attractiveness		Mental health	
	Women	Men	Women	Men	Women	Men
GTS-Gender Bashing	-.17	-.22*	-.16	-.20*	-.09	-.09
GTS-Genderism/Transphobia	-.53***	-.60***	-.59***	-.50***	-.48***	-.24**
KHAS	.43***	.57***	.54***	.46***	.47***	.27**

GTS Genderism and Transphobia Scale; KHAS Kite Homosexuality Attitudes Scale. Higher scores indicate higher levels of Gender Bashing and Genderism/Transphobia, and lower levels of sexual prejudice

* $p\leq.05$. ** $p\leq.01$. *** $p\leq.001$

Participant's Gender, Transphobia and Sexual Prejudice

Higher levels of Genderism/Transphobia were associated with higher levels of Gender Bashing, $r(117)=.51$ for men and $r(113)=.40$ for women, $ps<.001$, and more sexual prejudice, $r(117)=-.84$ for men and $r(113)=-.80$ for women, $ps<.001$. Higher levels of Gender Bashing were also significantly associated with more sexual prejudice, $r(117)=-.44$, $p<.001$ for men and $r(113)=-.22$, $p<.02$ for women.

There were no significant effects of order of the vignette (before or after the transphobia and sexual prejudice scales), or significant interaction effects between participant's gender and experimental conditions (MTF-congruent, MTF-incongruent, FTM-congruent, FTM-incongruent) on the GTS subscale and KHAS scores. Therefore, order and experimental conditions were not included as variables in the following analyses.

A one-way MANCOVA was calculated to test the fourth hypothesis that heterosexual men have higher levels of transphobia and sexual prejudice than heterosexual women. The independent variable was the participant's gender, the dependent variables were scores on the GTS subscales and the KHAS, and the covariate was social desirability scores. There was a significant multivariate main effect of participant's gender, $F(3, 231)=19.1$, $p<.001$, partial $\eta^2=.20$, and the covariate of social desirability, $F(3, 231)=14.8$, $p<.001$, partial $\eta^2=.163$. The multivariate test was followed by univariate tests, described below. To account for multiple tests, a Bonferroni adjustment was incorporated and significance was set at $p\leq.017$.

Compared to women, men had more negative attitudes toward transpeople, $F(1, 231)=43.7$, $p<.001$, partial $\eta^2=.16$ for Genderism/Transphobia (women $M=86.6$, $SD=29.0$; men $M=108.9$, $SD=28.0$) and $F(1, 231)=37.6$, $p<.001$, partial $\eta^2=.14$ for Gender Bashing (women $M=13.1$, $SD=5.6$; men $M=17.5$, $SD=7.0$). Men also reported more sexual prejudice than women, $F(1, 231)=31.4$, $p<.001$, partial $\eta^2=.12$ (women $M=80.0$, $SD=16.4$; men $M=67.4$, $SD=18.5$). Finally, higher levels of social desirability were significantly correlated with more positive attitudes toward transpeople, Genderism/Transphobia $r(232)=-.20$, $p=.002$ and Gender Bashing $r(232)=-.26$, $p<.001$, but not with sexual prejudice, $r(232)=.04$, $p=.51$.

We conducted an additional test of the second hypothesis that heterosexual men in particular would have more negative attitudes toward men who violate gender norms than women who violate gender norms. Three pairs of items on the GTS contrast attitudes toward feminine-appearing men and masculine-appearing women: "I have behaved violently toward a woman [man] because she [he] was too masculine [feminine]"; "I have teased a man

[woman] because of his [her] feminine [masculine] appearance or behavior"; and "Feminine men [Masculine women] make me feel uncomfortable." Two-way repeated measures analyses of variance were calculated to test for differences between women and men (between-subjects factor) and between attitudes toward feminine-appearing men and masculine-appearing women (repeated measure) for each of the three pairs of items. Social desirability scores were included as a covariate.

There were significant main effects for participant's gender, $F_s(1, 231)=11.4$ to 27.6 , $ps\leq.001$ and gender of transperson, $F_s(1, 231)=9.9$ to 14.8 , $ps\leq.002$. However, these effects were qualified by the significant two-way interaction: $F(1, 231)=14.4$, $p<.001$, partial $\eta^2=.059$, for behaved violently; $F(1, 231)=15.5$, $p<.001$, partial $\eta^2=.063$ for teased; and $F(1, 231)=31.0$, $p<.001$, partial $\eta^2=.118$, for feel uncomfortable. *Post hoc* tests indicated that men were more likely than women to report they had behaved violently toward, [men $M=2.2$, $SD=1.4$; women $M=1.5$, $SD=.9$; $t(232)=4.2$, $p<.001$], teased [men $M=4.1$, $SD=1.8$, women $M=2.8$, $SD=1.8$; $t(232)=5.5$, $p<.001$], and felt more uncomfortable around a feminine-appearing man [men $M=4.3$, $SD=1.9$, women $M=2.9$, $SD=1.7$; $t(232)=6.1$, $p<.001$]. There were no significant differences between women and men on attitudes toward the masculine-appearing woman [behaved violently, men $M=1.5$, $SD=1.1$ and women $M=1.4$, $SD=.9$; teased, men $M=2.8$, $SD=1.7$ and women $M=2.5$, $SD=1.7$; felt uncomfortable, men $M=3.3$, $SD=1.6$ and women $M=3.3$, $SD=1.8$, $t_s(232)=.4$ to 1.6 , $ps=.11$ to $.68$].

The covariate of social desirability was significant for all three pairs of items, $F_s(1, 231)=5.2$ to 37.7 , $ps<.02$, partial $\eta^2_s=.022$ to $.14$. Higher levels of social desirability were correlated with more positive attitudes toward transpeople.

Discussion

Prejudice against people who exhibit behaviors that are considered atypical for their gender is a persistent social problem in North America. Beginning to understand the factors that contribute to this prejudice, as we attempted to do in this study, may elucidate strategies to decrease prejudicial attitudes toward transpeople. Participant's gender continues to be a strong predictor of prejudicial attitudes. Men's general and attractiveness/relationship evaluations and transphobia scores were more negative than women's, confirming other research on attitudes toward transpeople (Antoszewski et al. 2007; Ceglian and Lyons 2004; Claman 2007; Hill and Willoughby 2005; Landén and Innala 2000; Leitenberg and Slavin 1983; Nagoshi et al. 2008; Tee and Hegarty 2006; Winter et al. 2008) and paralleling the findings on sexual prejudice

toward gay men and lesbian women (Ellis et al. 2003; Herek 1988, 2000a, b, 2002; Nagoshi et al. 2008; Schope and Eliason 2004). However, with one exception to be addressed later, neither gender of the transsexual, nor the interaction between gender of the transsexual and participant's gender, was predictive of negative evaluations of the transsexual character. Men's and women's general evaluations did not discriminate significantly between the MTF and FTM transsexuals, and the gap in men's negative attitudes toward the MTF and FTM transsexual was not significantly larger than the gap in women's attitudes. These findings are contrary to our predictions and to research indicating that gender non-conforming boys and men are viewed more negatively than gender non-conforming girls and women (Ellis et al. 2003; Herek 2000a, b, 2002; Sandnabba and Ahlberg 1999; Schope and Eliason 2004; Winter et al. 2008), especially by heterosexual men (Herek 1988, 2000a, b, 2002; Schope and Eliason 2004).

One possible explanation for the similar general evaluations for the MTF and FTM transsexual is that a majority of people believe that transsexualism has a biological cause (Antoszewski et al. 2007; Landén and Innala 2000), especially when compared to homosexuality (Leitenberg and Slavin 1983). Attribution theory posits that behaviors that are viewed as relatively uncontrollable—for example, as biologically determined—tend to be stigmatized less than behaviors that are perceived to be a choice (Weiner 1995; see also Falomir-Pichastor and Mugny 2009). Indeed, a belief in a biological cause of transsexualism is associated with positive attitudes toward transpeople (Claman 2007; Landén and Innala 2000). Perhaps the MTF transsexual was evaluated as positively as the FTM transsexual because they were viewed as not voluntarily rejecting their privileged status as a biological male, but as being compelled to part with it. A second reason for the similar ratings of the MTF and FTM transsexuals is that even though the transsexual in our study was a hypothetical person, participants read a brief description of them that was accompanied by an image, making the transsexual person seem more like an individual and not a member of an abstract group. Having more information about a person weakens stereotypes about physical appearance (Eagly et al. 1991) and gender (Deaux and Lewis 1984), and can, according to social categorization theory, reduce prejudice towards outgroup members (Kenworthy et al. 2005; Yzerbyt and Corneille 2005). Negative evaluations of the MTF transsexual may have been somewhat weakened in our study for a similar reason. Differential attitudes toward male and female transpeople may be more evident when they respond to a general measure of transphobia where there is very little personal information about the person being evaluated. In fact, we found that men reported

more intolerance toward feminine-appearing men than masculine-appearing women in response to three pairs of items from the Genderism and Transphobia Scale (i.e., “Feminine men [Masculine women] make me feel uncomfortable”). Women did not discriminate between the male and female transperson.

There was a significant interaction between the participant's gender and gender of the transsexual for the attractiveness/relationship evaluations, but it was not in the predicted direction. Heterosexual men rated MTF and FTM transsexuals similarly, whereas heterosexual women rated the MTF more negatively than the FTM. Men's similar evaluations regardless of the gender of the transsexual may be related to the importance of a heterosexual orientation to heterosexual men's masculine identity (Kimmel 2009; McCreary 1994; Messner 2004) and their need to constantly prove they are not homosexual (Herek 2002). If a heterosexual man rates a MTF transsexual as attractive he may interpret this as an endorsement of homosexuality because the transsexual is biologically male. Rating a FTM transsexual as attractive may also be viewed as an endorsement of homosexuality because although the person is biologically female, they look like a man. Therefore, the solution for heterosexual men may be to rate both the MTF and FTM transsexual low in attractiveness to reduce the perceived threat to their own masculinity and to prevent being viewed as homosexual. Although sexual orientation is important in understanding heterosexual men's transphobia, it may be less important than other factors in understanding heterosexual women's general transphobia (Nagoshi et al. 2008). For example, heterosexual women may want to distance themselves from MTF transsexuals because they perceive them to be incomplete women (Kando 1972), a phenomenon sometimes seen in heterosexual women's attitudes toward lesbians (Herek 2002; Schope and Eliason 2004). As with attitudes toward lesbian women (Hamilton 2007), perhaps heterosexual women also believe that MTF transsexuals cannot compete effectively with them for the romantic attentions of heterosexual men, and thus they denigrate them accordingly. It is interesting that the more personal attractiveness/relationship ratings produced a difference in women's responses, whereas the less personal general evaluation and general transphobia measures did not. Imagining a personal relationship with a transsexual may activate different emotions and stereotypes in women than in men. Along these lines, one factor that deserves further investigation is gender self-esteem, or a strong identification with one's gender group. Having a strong social identity as a man is related to heterosexual men's sexual prejudice toward gay men (Falomir-Pichastor and Mugny 2009). We do not know if the same holds true for heterosexual women's and men's transphobia toward transmen and transwomen.

Physical appearance of the transsexual character affected the general and attractiveness/relationship evaluations, providing partial support for our prediction. Both women and men gave higher attractiveness/relationship evaluations to the transsexual with facial features that were congruent with the desired gender (more feminine for the MTF and more masculine for the FTM) rather than incongruent (more masculine for the MTF and more feminine for the FTM). These results support other findings that facial attractiveness is associated with masculine features for males and feminine features for females (Fink and Penton-Voak 2002; Johnston et al. 2001; Little et al. 2006; Rennels et al. 2008; Thornhill and Grammer 1999) and that perceived physical attractiveness is associated with other positive attributes (Eagly et al. 1991; Feingold 1992; Langlois et al. 2000). Furthermore, gender-atypical faces (Freeman and Ambady 2009) and faces paired with gender-incongruent terms (i.e., masculine faces paired with feminine names; Mason et al. 2006) can activate stereotypes associated with the other gender. Therefore, transsexuals with facial characteristics that are incongruent with their desired gender may activate stereotypes associated with the undesired gender, thus causing participants to evaluate the transsexual as being less attractive. Our results provide further evidence for the importance of facial features as salient cues for gender categorization and stereotype activation.

The effects of congruent and incongruent appearance on the general evaluation of the transsexual are less easy to explain. Men's general evaluations were more positive for the congruent than the incongruent transsexual whereas women's evaluations did not differ between the two appearances. The possibility that men may be more sensitive than women to attractiveness cues when making other attributions about a person does not have much support (Eagly et al. 1991; Langlois et al. 2000). However, men may be somewhat more affected than women by the perceived masculine and feminine appearance of a target when making attributions regarding gender-typed personality characteristics and sexual orientation (Madson 2000).

Not surprisingly, higher scores on the Genderism/Transphobia subscale of the GTS (Hill and Willoughby 2005) predicted more negative general and attractiveness/relationship evaluations of the transsexual person. The Gender-Bashing subscale predicted negative general and attractiveness/relationship evaluations, but only for men. This latter subscale assesses more violent attitudes toward transpeople and the scores were relatively low for both women and men (see also Winter et al. 2008). Gay-bashing tends to be more common in men than women (Whitley 2001) and this is very likely true for violent or rude behaviors toward transpeople. Sexual prejudice also predicted more negative evaluations of the transsexual character

and higher levels of general transphobia (see also Claman 2007; Hill and Willoughby 2005; Nagoshi et al. 2008).

Unlike general and attractiveness/relationship evaluations, evaluations of the transsexual's mental health were not significantly affected by the participant's gender, gender of the transsexual, or facial appearance of the transsexual. Only social desirability scores were significantly associated with positive mental health evaluations. A belief in a biological cause for transsexualism may result in less stigmatization of the transsexual person's mental health. Furthermore, only two items assessed the transsexual character's mental health, and one of these was somewhat value-laden, asking participants to rate the extent to which the character was "disturbed." A broader assessment of attitudes toward the transsexual's mental health may yield different results.

Our findings point to the potential importance of participant's gender, transsexual's gender, and facial appearance to the evaluations that others make about transsexuals. However, this area is ripe for further research. Different types of evaluations need to be investigated, including expanding on our general, attractiveness, and mental health evaluations. It would be especially interesting to investigate perceptions of the transsexual person's sexual orientation and gender-typed behaviors, both of which are related to perceptions of masculinity and femininity (Blashill and Powlisha 2009; Madson 2000; Rogers and Ritter 2002). For example, would people pay more attention to the transsexual person's biological sex or desired gender when making evaluations about their sexual orientation? Future studies could also investigate whether photographic images employing finer gradations of masculine and feminine facial features and/or images of whole bodies affect evaluations of transsexual people.

Herek (2002) noted that the effects of the rater's gender and the homosexual person's gender on sexual prejudice vary depending on the type of attitudes being measured (i.e. stereotypes, support for civil rights, personal discomfort, etc.). The same probably holds true when measuring attitudes toward transpeople. Also, not all transpeople are alike—factors related to attitudes toward a transsexual person may be less relevant or not relevant at all when studying attitudes toward cross-dressers. Variability within transsexuals should also be examined in more detail. For example, in a study of Polish transsexuals, Herman-Jeglińska et al. (2002) found that MTF transsexuals had stronger feminine gender role self-concepts than did biological women, whereas FTM transsexuals were similar to biological men in their masculine gender role self-concepts. If these differences are perceived by observers, they may activate different gender categories (Yzerbyt and Corneille 2005) which in turn may lead to different levels of prejudice toward FTM and MTF transsexuals.

Because of the relative dearth of information on attitudes toward transpeople, many hypotheses have been derived from research on attitudes toward gay men and lesbian women. There are similarities in factors affecting levels of sexual prejudice and transphobia, i.e. men have more negative attitudes than women; however, there are also differences, i.e., people may discriminate less between MTF and FTM transsexuals compared to gay men versus lesbian women. The reasons for differences in attitudes between transsexuals and homosexuals deserve further investigation, including the role of a stronger belief in a biological cause for transsexualism than homosexuality (Leitenberg and Slavin 1983). Furthermore, gay men and lesbian women may be reviled because their erotic and sexual attraction to the same sex is perceived as not conforming to their sexual or gender identity. Transsexuals, on the other hand, may be seen as trying to conform or converge to gender norms by changing their bodies to fit their gender identity. This perception could result in transsexual people escaping the harsh antipathy toward homosexuals, especially gay men; conversely, transsexuals may be viewed as imposters (i.e., not “real” men or “real” women) and experience similar levels of antipathy as do gay men and lesbian women.

Although the effects weren’t strong, social desirability scores correlated significantly with the general and mental health evaluations and transphobia, but not sexual prejudice. Blashill and Powlishta (2009) also found nonsignificant effects of social desirability on men’s sexual prejudice; however, in contrast to our results, Claman (2007) and Hill and Willoughby (2005) did not find significant effects of social desirability on attitudes toward transpeople. It would be worthwhile to determine the conditions under which people are motivated to respond in socially desirable ways when evaluating people who are gender non-conformists. Self-report measures such as those used in the current study are subject to several kinds of biases, in addition to social desirability. More covert measures of stereotyping and prejudice such as the Implicit Association Test (Greenwald et al. 1998) or subtle hand movements in response to sex-atypical stimuli (Freeman and Ambady 2009) could be employed. Also, direct behavioral measures of transphobia, such as observing interactions with real transsexual people, would enrich our understanding of transphobia.

Our sample was restricted to college students. Compared to other samples, college students’ attitudes may be affected by the greater likelihood of being exposed to transpeople on campuses or information about them in classes. Also, we studied only heterosexual women and men, but heterosexuals are not the only group that may be transphobic. Weiss (2003) refers to the “Myth of ‘GLBT Community’ Togetherness” (p. 28), or the assumption that all members

of the gay, lesbian, bisexual, and transgender community are supportive of each other and united in their efforts to confront prejudice and discrimination against its members. Weiss disputes this assumption and argues that prejudice and discrimination against transpeople are endemic to the GLBT community and need to be addressed and studied. Finally, most studies of attitudes toward transpeople are from North America or Europe (although see Winter et al. 2008). Systematic studies are needed in societies where transpeople have a stronger historical or cultural presence, for example the two-spirit people of some Native American tribes, the hijras and sādhin in India, the māhū in Tahiti and Hawaii, and the kathoey in Thailand (Nanda 2000).

Many people view gender and sex through a dichotomous lens—there are only two sexes and only two genders and the sexes must match with the “correct” genders to be considered normal. The transsexual activist Kate Bornstein (1994) questions whether this view really fits with reality:

Is there really such a thing as a normal man or woman? I have this idea that there are only people who are fluidly-gendered, and that the norm is that most of these people continually struggle to maintain the illusion that they are one gender or another (p. 65).

Clearly, transpeople do not easily fit into feminine/masculine dichotomies (Roughgarden 2004) and they challenge us to better understand the gender diversity that exists among humans.

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